

CONGESTION PRICING FROM SOUP TO NUTS: Leveraging Federal Opportunities and Managing Expectations

TRB 2006 Annual Meeting Workshop Sunday, January 22, 2006 Hilton Washington Hotel International Ballroom West Summary Minutes

Attendees: D. Abrams, Stuart Anderson, Auloine Averseng, Brian Baird, Mark Bartlett, Rob Bastrom, John Berg, Wayne Berman, Kiran Bhatt, Jerome Bracken, Daniela Bremmer, Ken Buckeye, Jeff Buxbaum, Tilly Chang, John Charles, Nancy Chinlund, Scott Cooner, Patrick DeCorla-Souza, Missy Dickens, Fred Doebling, Daniel Dornan, Casey Emoto, John Evans, Stacey Falzarano, Steve Fitzroy, Mark Fowler, Chuck Fuhs, L. Dedi Gong, Allen Greenberg, Sharon Greene, Robin Grier, Jacky Grimshaw, Gary Groat, Randall Guensler, Arthur Guzzetti, Ashad Hamideh, Alfred Harf, Steve Hastalis, Tamar Henkin, Loyd Henion, Roger Herz, Antonie Hobeika, Stefan Hojofel, David Jackson, Peter Javasicas, Peter Korpel, Beverly Kuhn, Todd Litman, Mena Lockwood, Nathan Macek, Matt MacGregor, Kathleen Marraso, Doug McDonald, Steve Monello, Wendy Morgan, Audrey Moruza, Jose Luis Moscovich, Randy Mullett, Mark Muriello, Lee Munnich, Koorosh Olyai, Ken Orski, Jerry Queleh, Michelle Page, Daniel Papiernik, Tyler Patterson, Tom Pelnik, Jonathan Peters, Ken Philmus, R. Suseela Rajan, Barbara Reese, Ed Regan, Bill Reichmuth, Michael Replogle, John Ristow, Francesc Robuste, David Ruben, Stephen Rutherford, Eugene Ryan, Donald Samdahl, Kjell Ottar Sandul, Erna Schol, Eric Schreffler, Friedrich Schwarz-Herda, Marco Scuderi, Hanibal Seriani, Rod Smith, Jeff Squires, Helen Srameic, Joanne Stevens, William Stoeckert, Bill Stockton, Chris Swenson, Ray Traynor, David Ungemah, Ludmila Vodzinska, Heather Werdick, Michael Wieck, Greg Wolf, Takumi Yamamoto, Jessie Yung

*All PowerPoints delivered during workshop are available as a supplement to these minutes at <http://www.hhh.umn.edu/centers/slp/trb2006.html>

*The agenda can be found in Appendix #1.

Welcome and Introductions

Moderator, Mark Muriello of the Port Authority of New York & New Jersey, welcomed all in attendance and thanked them for participating in the Sunday event. He kicked off the workshop by presenting the evolution of the definition of congestion. The definition has transformed over the last hundred years from "an act of gathering into a heap or mass" to "to overfill or to crowd." Introductions of attendees followed.

Tolling and Pricing in SAFETEA-LU

Wayne Berman, of FHWA, provided an overview of tolling opportunities currently available under SAFETEA-LU. He began by equating the work of the FHWA to herding cats. He announced that their website is set up to field questions relating to SAFETEA-LU, but in general, the new legislation provided more authority to toll and price motor vehicles. Currently, there are six programs.

- Express Lanes Demonstration
- HOV Facilities
- Value Pricing Pilot Program

- Interstate System Construction Toll Pilot Program
- Interstate System Reconstruction & Rehabilitation Pilot Program
- Section 129 Toll Agreements

Wayne's team coordinates programs within FHWA, reviews, directs, helps to promulgate final rule on ETC (electronic tolling), supports program offices, coordinates with field offices, and establishes performance goals. For interested parties, an expression of interest is required. FHWA will facilitate the process. For further information please view the website at http://www.ops.fhwa.dot.gov/tolling_pricing/index.htm.

Tolling for Demand Management

Express Lanes Demonstration - After having established a clear overview, Wayne shifted gears and started discussing the Express Lanes Demonstration program. The program allows for 15 demonstration states. No funding is provided, only the authority to toll. To toll new or existing facilities, variable pricing is required. Additionally, toll collection must be automated using the non-cash electronic technology interoperability rule. Ed Regan then asked about environmental regulations in this process. Wayne replied that each application must comply with the standards, but is reviewed separately.

High Occupancy Vehicles - Jessie Yung began by asking who in the audience was from a state with HOV facilities and who was considering converting to HOT. Nearly everyone in the room raised their hands. Jessie then explained that under SAFTEA-LU, minimum occupancy rules will remain the same for HOV facilities: 2 or more people with exceptions provided for motorcycles and bicycles, low-emission and energy-efficient vehicles, public transport vehicles, and HOT vehicles. A certification process is in effect for low-emission vehicles, including enforcement. If the inclusion of such vehicles in the lanes degrades the level of service available, then the use of those vehicles must be discontinued. A facility is considered to be degraded if speeds in the lane are reduced by more than 10mph below the posted speed limit. Jessie stressed that this is a minimum for states and suggested that states should think about their own definitions. A Federal Register will be released for public comment, detailing the new HOV guidelines.

Value Pricing Pilot Program - Patrick DeCorla-Souza expressed his enthusiasm for the twelve year-old program and stated that his talk would focus on the changes made in the renewal. The goal, however, has remained unchanged: to reduce congestion through innovative concepts and technology and therefore enhance the nation's transportation facilities. The current focus is on demand management, not revenue generation. Under SAFTEA-LU the project has \$12 million per year. However, \$3 million must be set aside for projects not involving tolls. Patrick stressed that this program will not pay for pavement, only for technology involved with implementation, pre-implementation studies, and evaluations. Under the program, 15 states are given authority for unlimited tolling capabilities. Fourteen states have already jumped to the table. The competition for the remaining slot is anticipated to be quite high. Supported project types include: comprehensive applications, tolling existing lanes, shifting from fixed to variable tolls, Q-jumps, supplement or supplant tax-based funding, and credit-based pricing programs. HOT study applications are no longer under value pricing with some exceptions. The program is looking for newer, more innovative ideas. Also included under the program are projects that do not involve tolls, such as parking pricing (curb space, employee) and pay-as-you-drive pricing (insurance, car-sharing). Expressions of interest are due January 31, 2005 and full proposals are due March 31, 2005. Questions followed his presentation, to which Patrick answered:

- Truck Only Tolls (TOTs) may qualify, but each project is evaluated separately
- Fair lanes – transform some of the general-purpose lanes into toll lanes and give people credit for not using the toll lanes
- Fast miles – give licensed drivers their share of the system in the form of credit, then charge drivers for their use – those who drive more, pay for the privilege, those who drive less cash-out
- Fair highways – toll entire system and provide credit to low-income users

Infrastructure Programs

Interstate System Construction Toll Pilot Program – Greg Wolf began by explaining that under SAFETEA-LU, the program allows for the construction and tolling of three new interstates. He stressed that this is not intended for reconstruction of existing facilities. There is no federal money allocated to this program, only the authority to toll.

Interstate System Reconstruction and Rehabilitation Toll Pilot Program – Greg continued by differentiating this program from the previous. This program, a continuation from TEA-21, allows for three existing facilities to be tolled in separate states. The intent is to provide funding for projects that would be infeasible without tolling. The application requirements have been published previously. One slot remains as Virginia and Missouri have already been approved.

Section 129 Agreements – Greg then spoke of Section 129, which provides an exception for tolling activities to be eligible for federal funding, including initial construction (except Interstate), reconstruction of existing toll facilities, reconstruction/replacement of free bridges and tunnels, reconstruction of free highways (except Interstate), and feasibility studies.

Wayne Berman concluded by explaining that yes, the regulations are confusing and that similar needs will fall under multiple programs. He invited further questions to be directed toward any member of his team.

Discussant Panel – Tolling and Pricing in SAFETEA-LU:

Mark introduced the panel, asked them to deliver brief statements commenting on the presentations, and then turned to the floor for questions.

Jeff Squires, former aide to Senator Jim Jeffords, advocated for advancing value pricing, free flow, and interoperability. Squires mentioned that Lee Munnich's work has been instrumental in moving the value pricing program further. State level politics have come into play, as candidates have used this issue as a plank. He expressed excitement over FHWA work and the evolution of the program.

Thomas Pelnik, from Virginia DOT, jokingly apologized for being an engineer. He stressed that tolling authority must be addressed at the state level too and urged that transit subsidy for fixed guideway facilities converted from HOV to HOT be preserved. He asked members of the audience to examine the change taking place in the way that business is now being conducted. Design-build projects and concessionaire options yield results, but at what associated costs? He concluded by pointing to Virginia's current struggles with balancing the financing component with the demand management.

John Berg drew on his experience recounting that during the 1970s, tolls on federal highways were unthinkable. He commented on how important this swing in public opinion is to facilitate the proposed changes. John added that value pricing is continually being evaluated and accessed. This seemingly indecisive behavior places a strain on the project. John called for a stabilization of the program and left that idea as food for thought.

- Ed Regan kicked-off the question session by questioning whether SAFETEA-LU is main streaming pricing too quickly. Adequate funding remains the primary reason for success. Wayne responded that new federal register will explain the option better and, in his estimation, has opened the door for new ideas
- Lee Munnich commented that Minnesota is moving forward because of outreach and education efforts. He expressed concern that other states are not working on this as diligently, not to mention education of the DOTs.
- Thomas Pelnik expressed similar concerns about the design build legislation in Virginia. The contracting opportunities are gaining momentum, but public support is vital.
- Jose Luis Moscovich stressed that reauthorization will be here again soon. He urged that a model be created to measure and evaluate the economic impact of pricing systems.
- Bill Stockton added that through the projects on the ground, a significant amount of experience with tolling has been gained. He wondered aloud about how the public's understanding of pricing fits into the larger picture about balancing demand management and revenue generation.
- Jeff Squires agreed with Bill and drew a parallel with commercial shipping industry. The freight community's understanding of the potential economic impacts is something that should remain in the forefront.
- Michael Replogle explained that unlikely bedfellows have resulted from pricing as a concept. Environment Defense, AASHTO, and others have banded together to ask states to consider tolling as an option when examining infrastructure needs. He urged that those relationships be continually nourished as states attempt to address the social, environmental, and economic impacts. Wayne added that he believes tolling will be considered naturally.
- John Berg asked how many of the 14 value pricing states are actually tolling. Patrick responded that only California, Texas and Minnesota are using the authority, and should other states decide that tolling is not an option, their slot (of the 15 available) would become available for another state. Patrick also added that he is trying to go beyond what already has been piloted with limited resources.

Mark thanked the panel for their thoughts.

Stakeholders Panel

After a quick break, Lee Munnich brought the group back together and spoke briefly on his experience of making pricing a reality in Minnesota. He mentioned the success of the summer workshop in Boston and explained that these presentations were a continuation of that discussion. Lee then introduced the panel and served as moderator during discussion.

Randy Mullet's presentation began with some general information about the current state of the trucking industry. Randy acknowledged that current funding for transportation systems is inadequate, especially given that the FHWA projects a 75% increase in truck traffic by 2025. He urged that other alternatives also be considered, including indexing gas taxes to alleviate the looming issue. The trucking industry is always puzzled by pricers' unwillingness to accept truckers' assertions about their business models. Truckers carefully examine and refine their models and are financially invested in efficient movement of freight on a national scope. Truckers are looking for a return on their investment. Compensation varies between firms: some pay by hour, others by mileage driven. Randy half joked that if you are not at the table, you're on the menu. He stressed that road pricing must have a direct benefit for users and that operations be coordinated from state to state. Fifty unlinked tolling agencies will not work for the industry.

Michael Replogle spoke on equity and the environment. He began by reiterating a point he made earlier: tolling has created unusual bedfellows and that we must figure out ways to build consensus. Michael explained that tolling could be used to spread the peak, manage congestion, limit traffic growth, and create alternatives to driving, all while avoiding adverse impacts. He stressed the importance of incorporating transit-oriented designs into the projects. Please refer to his PowerPoint for diagrams that include inline stations, shoulders, and inclusion of parallel arterials. He referenced Bob Poole's discussion about a nationwide network of HOT lanes, commenting that while the concept sounds wonderful, deliberate steps must be taken to include transit. Michael encouraged the audience to consider urban design innovations that can enhance transit use. He also added that steps need to be taken to reduce long-term risks. He commented that although public-private partnerships contain numerous advantages, he is worried about concentrating power, shortcutting local officials, and avoiding of the environmental review process.

Jacky Grimshaw began by reminding everyone that recipients of federal funds cannot discriminate against anyone. These regulations include race, national origin, color, and income. As transportation professionals, we need to be aware of the adverse impacts on public safety and economic impact. Public involvement throughout the process is critical and through that process, both the experts and laymen gain an understanding of the other's perspective, thereby enabling problems to be mitigated. Jacky also urged that the ways in which people travel to the transit stations be examined. With the adverse air and water impacts, how are the benefits and burdens being distributed? She explained that value pricing usually saves time for the people who can afford it, affordable housing is usually located at the edge. Jacky challenged the workshop to focus on how pricing schemes can be implemented without damaging equity and the environment.

Arthur Guzzetti explained that he sees four main themes that transit operators are concerned with: maintaining existing travel time advantages, creating new transit markets when pricing programs are added, safeguarding federal transit subsidies, and capitalizing on excess revenue generated from tolls to improve transit. He expressed concern that tolling is not that well supported and stressed that support from the transit community could be used to further the pricing agenda.

- Chris Swenson responded to the presentations by asking, how should pricers work together with elected officials? Jacky fielded that question, replying that

initial involvement and education is paramount. Randy added that not all people are going to be happy with the product. Michael stated that looking at lessons from London demonstrate that strong political leadership can be very effective in implementing projects. London's mayor won reelection.

- Randy responded to a question regarding the cost of congestion by stating that yes, there is a cost, but it is one that already exists. While tolling would add a cost, there is no guarantee of a benefit – which is what makes truckers nervous. Lee added that research should to be done in this area.

Mark welcomed the group back from lunch.

Pricing as a Tool for Demand Management

As a segue from the previous session into this one, Jose Luis Moscovich announced that San Francisco is examining cordon pricing as an option for managing demand. He reiterated the importance of incorporating transit into the design. He then introduced the speakers.

Todd Litman began by raising a question, what happened to buying salads by weight? Currently, the cost is the same regardless of weight and therefore the incentive is for people to load up their plates. He then shifted away from the analogy and proceeded to touch on numerous key points. He explained that competitive markets are effective ways to manage scarce resources. Transportation costs 20% of average family income. Many of the costs associated automobile ownership are fixed and therefore the marginal cost of driving is low. Free parking exacerbates air pollution, congestion, etc. The choice with pricing is really the choice between paying directly or indirectly for something. Driving and parking are perfect examples of these market mechanisms breaking down. Todd explained that it is far more efficient to pay directly for something because you have a choice over how to allocate your resources. When properly measured, vehicle travel turns out to be relatively price sensitive – travel behavior changes as prices change. These reforms have multiple benefits, one being that through correcting parking prices, advantages are gained in congestion and safety. Other ideas include distance based road fees, pay as you drive insurance, parking cash-out for employees who choose not to drive, and road pricing. He concluded that improvements in technology have increased the feasibility of these ideas, but that much implementation work remains.

Eric Schreffler expressed his excitement over the workshop and the ideas being generated. Eric started his presentation by providing a little background for his project. During June of 2005, he traveled throughout Europe examining pricing schemes in hopes of generating ideas for application in the United States. The team identified six areas of interest, Rome, London, Stockholm, Cologne, the Netherlands, and Lund.

Rome – The program was designed as a mobility policy to preserve the historical core that reduced negative impacts such as emissions and congestion. To access the control zone a driver must have the proper permit and a catalytic converter. Non-residents of the city must pay a cost for the annual permit and must provide proof of an off street parking space. The violation rate is 5% and a lot of revenue is generated this way. The result included 20% reduction in traffic, but an 11% increase in scooter traffic.

London – Eric moved quickly through London because of its familiarity. He mentioned the use of photo enforcement. The cordon area will be expanded to the west in 2007. The fee was increased on July 4, 2005. The scheme resulted in a 30% reduction in congestion and drastically improved bus times.

Stockholm – The 2002 elections resulted in a coalition government, which included the Green Party. The coalition embraced the call for a reduction in emissions and devised a plan similar to London's scheme. In addition to the priced entrance fees, additional transit capacity, in the form of 250 buses, larger park & rides, and longer trains have been brought online. The scheme is temporary and will remain in effect until the end of July. Following the project's conclusion, an extensive evaluation will be conducted and distributed to the residents. On September 17, 2006, the residents will vote in a referendum. The goals of the project include a reduction in congestion and an improvement in the urban environment. Prior to implementation of the project 80% of residents utilized public transit. The early results are impressive, as there are reports of a 23% reduction in inner city traffic and an 80% reduction in travel times. The Scan report will be available in a couple of months at www.international.fhwa.dot.gov. Eric invited people to email him with unanswered questions.

Jose thanked the two presenters and then asked the audience for questions.

- Jon Peters asked, how to better create the linkages between transit and pricing schemes? Todd fielded that question, replying that New York has half of its bridges tolled and some of the motorists are parking free. Todd hypothesized that if all the bridges were tolled and none of the motorists were parking free, commuters would begin to look for alternative routes. People complain about traffic congestion, but do not always realize their choices.
- Todd was then asked about the relationship between cost and price reduction. Todd responded stating that there is a paper on price elasticity at his website, www.vtpi.org. The better the transit options, the smaller the price increase in automobile travel to induce people to switch modes. Currently an increase of greater than 10 cents per mile can drastically alter behavior. He stressed that the cost could be lowered if improvements to transit are made.

Pricing as a Tool for Transportation Finance

Bill Stockton welcomed everyone back from the break and clarified that this section will discuss financing as it pertains to pricing.

Matthew MacGregor thanked Bill for the introduction and quickly got started on his presentation. His message was clear; the pay as you go approach is not working any more as populations continue to grow and the infrastructure is aging. Alternative funding sources are needed in combination to tackle the problems. He explained that managed lane systems are difficult to implement because they are not robust enough to pay for themselves completely. The Texas legislature, through the passage of HB 3588 and HB 2702, has given TxDOT new financial options. TxDOT has five main objectives: reduce congestion, eliminate unsafe conditions, expand economic opportunities, improve air quality, and increase the value of the transportation assets. To fulfill these goals, four methods will be employed, utilizing the new financial options, creating champions from local and regional leaders, increasing competitive pressures, and allowing consumer driven demand to guide decisions. Three projects are the current focus, I-30, I-820/SH 183, and I-635. He concluded by asserting that choosing projects is a balancing act and that those that offer the greatest benefit should be completed first.

Al Harf began by asking, what are the transit operators' interests? He explained that they are concerned with the preservation of benefits (travel time savings), creating new transit riders, safeguarding federal subsidy for transit, and the utilization of toll surpluses to improve the level of service. He elaborated adding that transit can be used to appeal

to environmentalists, smart growth advocates, and assist in disaster preparedness. He then pointed to two projects to illustrate his point. Interstate-494 will be widened to incorporate four HOT Lanes in an area with virtually no existing transit service. The HOT lanes will create opportunities for increased time-savings and therefore an opportunity for transit to fill a void. The \$900 million project is expected to be completed by 2010. Al then switched to a discussion of the I-395/I-95 extension. Up to 58 miles of HOV lanes will be widened and converted from two HOV lanes to three HOT lanes. The FTA projects possible earnings of \$5 million per year with inline station possibilities and additional park & ride lots. These projects could be the start of a network of HOT lanes, which if properly planned and implemented could significantly aid transit services.

Dan Dornan, after explaining his recent move from Virginia to Florida, began with a quote from Will Rogers. "To solve the congestion problem, remove all the cars that aren't paid for." He then turned to the premise of pricing by asserting that highways lose capacity beyond a certain density of traffic and that some regulatory mechanism would solve the problem. He expressed his enthusiasm over the number of excellent options available through road pricing. Dan equated the US highway system to a Soviet style program – given the monopoly status and long lines. Pricing introduces a number of ways in which the established system will be challenged. Pricing is more than a financial problem being solved through economics, but rather a fundamental shift in the way residents view roads. It ultimately changes a user into a customer and institutional challenges must be addressed for success to occur. He urged pricers to consider the role of all customers and pointed out the importance of the trucking community on highways. He stressed the importance of incorporating stakeholder groups and pointed to national and international success stories as demonstrations. He then offered these keys to tolling success: price only new capacity, retain choices, offer improved service for the price, allay privacy concerns, make systems interoperable, avoid discounting, commit revenues to transportation improvements, propose the usage of funds for transit, stress outreach and education programs, communicate project goals, and be conservative in estimating success. He concluded by inspiring everyone about the benefits of pricing, but cautioned about the considerable effort required.

Bill Stockton then opened the speaker panel to questions from the floor.

- Pat Jones asserted that the average citizen views pricing as equivalent to tolling and that we need to figure out a way to mainstream the ideas. He agreed with Dan, stating that we need to include truckers, shippers, state legislatures, governors, and federal officials.
- Matt responded to a question regarding the upper limits of the tolling and pricing. He explained that in Texas, they are planning to pay for nearly all new improvements through tolling. He added that pricing can and is being employed in other applications such as water and telephones. He stressed the governmental agencies become more accountable because the users become customers.

Bill thanked everyone and welcomed David Ungemah to the podium.

Bridging the Gap between Pricing as a Demand Management and Finance Tool

David Ungemah kicked off the session by advocating that "pricing lets us build stuff sooner." He went on to explain that problems can therefore be addressed in a more timely manner. He then, however, countered by proclaiming that pricing allows us to

never have to build anything. He introduced the two speakers and concluded that one size does not fit all, that pricing is simply a tool.

Stuart Anderson began by hypothesizing that perhaps demand management and financing are really complementary objectives. He proclaimed that pricing is a tool for which there is growing support. He stressed the importance of creating partnerships and that professionals should really be concerned with maximizing the people capacity of the system and not the car. Variable pricing, Stuart contended, must offer priority to buses and vanpools with significant time-savings that people truly appreciate. If that is accomplished through increased choice, everyone benefits, including the environment. Stuart then discussed ways in which to garner public support for the idea. He focused on his experience with I-25 in Colorado. He stressed that a campaign that focuses on and demonstrates the benefits to everyone will be the most effective. His PowerPoint included shots of billboards used with quotes such as, "...because the meeting won't wait for you" and "Get home now because your best friend matters." He urged professionals to engage in frequent public educations and utilize a mixture of strategies.

Kenneth Orski started by questioning whether a conflict exists between tolling (revenue) and pricing (TDM)? He explained that maximum vehicle throughput is achieved by maintaining a toll just high enough to maintain free-flow conditions. When maximum throughput is achieved, in his mind the system is close to maximizing revenue. Ken went on to proclaim that although toll road operators sometimes appear to have monopolies – in reality they do not. He asserted that the operators function in a political society where public opinion keeps them in check. Regulations can be devised to prevent private companies from squeezing the customers. In his estimation, pricing and tolling will tend to converge more and more.

David thanked the presenters and opened the floor to questions and comments.

- Doug McDonald, Secretary of Washington State DOT, disagreed with Ken Orski, professing that the bridge will be very difficult to build, but that he believes that the bridge is the future and is where we must go. He then touched on the differences between closed vs. open indentures. Robert Moses did it on open indentures, what are the applications today? Airport landing fees are on a closed indenture and that has hindered peak pricing. Ken then clarified this last point, explaining that Doug was referring to a network of HOT lanes.
- Lee Munnich stood up and asked how to address systems that are not paying for themselves, specifically I-394 in Minnesota? How can we reach out to people? Lee recognized that one section of highway is a small step toward a network, but expressed concern for public opinion. He added that even Ken Orski and Bob Poole estimated that a HOT lane network would not be self-sustaining.
- Using Lee's comments as a springboard, David asked, how do we keep the policy makers from abandoning the gas tax? He went on to stress that tolling should be viewed as tool to supplement state DOTs' expenses. The largest benefit is the recovery of the cost of congestion, not in the revenue it generates. The savings from reduced congestion must be expanded beyond the savings for individuals and must incorporate the delay to freight shipments.
- Bill Stockton asked: there are 290 million people to educate, how can that be feasibly done? Ken answered that the power of example by the end of the decade will yield supporters faster than ever. Stuart added that pricers need to be more proactive in influencing the decision makers.

- Matt MacGregor then suggested visiting the TxDOT website and looking for the minutes from the December meeting. In this meeting, the high level officials were speaking with the local operators and the conversation was very enlightening.
- Tony May then suggested that the optimal price is really the price it takes to price the last person off the system whose collective negative impact on others is greater than the individual benefit received. He suggested that a slight amount of congestion is actually the optimal price.
- Dan Dornan commented that the way to raise tolls without adversely affecting public opinion is by enlisting and educating the press. We are in the infancy and people do not understand the potential benefits.
- Patrick DeCorla-Souza responded that he does not believe that there is an optimal level of congestion in America. He also stressed that people through-put is the most important and that maximum through-put can most effectively be achieved through the public-private partnerships that involve tolling of roads with toll revenues going to the public sector and the private partners paid on the basis of shadow tolling. Patrick urged that the number of occupants in a car be counted and that the private sector be paid a toll per person. He suggested that the private sector will determine the way to optimize through-put with tolls, vanpools, carpools, buses, trains, or jokingly skateboards. There are credit based ideas as well and he urged researchers to submit proposals to the Value Pricing Pilot Program.

Appendix #1 - Workshop Agenda:

- 8:30 a.m. Welcome and Introductions
- 8:45 Tolling and Pricing in SAFETEA-LU
Moderator: Mark Muriello, The Port Authority of New York & New Jersey
1. Overview of Tolling Opportunities – Wayne Berman, FHWA
 2. Tolling for Demand Management:
 - Express Lanes Demonstration Program – Wayne Berman, FHWA
 - High Occupancy Toll Vehicles (HOV to HOT Lanes) – Jessie Yung, FHWA
 - Value Pricing Pilot Program – Patrick DeCorla-Souza, FHWA
 3. Infrastructure programs – Greg Wolf, FHWA
 - Interstate System Construction Toll Pilot Program
 - Interstate System Reconstruction and Rehabilitation Toll Pilot Program
 - Section 129 Agreements
- 9:30 Discussant Panel
 - Jeff Squires, PARSONS
 - Thomas W. Pelnik III, Virginia Department of Transportation
 - Katie Nees, Carter Burgess
 - John Berg, Retired FHWA
- 9:50 Participant Discussion
- 10:30 Break
- 10:45 Stakeholders Panel
Moderator: Lee W. Munnich, Jr., Humphrey Institute of Public Affairs, University of Minnesota
- C. Randal Mullett, CNF, Inc.
 - Lewison Lee Lem, California State Automobile Association
 - Arthur L. Guzzetti, American Public Transportation Association
 - Michael A. Replogle, Environmental Defense
 - Jacquelyne Dolores Grimshaw, Center for Neighborhood Technology
- 11:30 Participant Discussion
- 12:00 Lunch
- 1:15 p.m. Pricing as a Tool for Demand Management
Moderator: José Luis Moscovic, San Francisco County Transportation Authority
- Todd Alexander Litman, Victoria Transport Policy Institute, Canada
 - Eric Schreffler, ESTC
- 1:45 Participant Discussion
- 2:15 Break
- 2:30 Pricing as a Tool for Transportation Finance
Moderator: Bill Stockton, Texas Transportation Institute
- Matthew MacGregor, Texas Department of Transportation
 - Alfred Harf, Potomac & Rappahannock Transportation Commission
 - Daniel L. Dornan, AECOM Consult Inc.
- 3:00 Participant Discussion

3:30 Bridging the Gap between Pricing as a Demand Management and Finance Tool
Moderator: David H. Ungemah, Texas Transportation Institute, Texas A&M University

- Kenneth Orski, Innovation Briefs
- Stuart Anderson, UrbanTrans Consultants, Inc.

4:00 Participant Discussion

4:30 Wrap Up and Adjourn